

# "BandView" software add-on for WSJT-X for Windows

September 2022

Match	Date Time	Freq	TRx	Mode	Rcvd	DT	AudFreq	Call 1	Call 2	Grid/Rot
*	220926 070645	14.074	Rx	FT8	-9	0.2	1763	MM0JTV	VKSNIQ	-06
*	220926 070645	14.074	Rx	FT8	-24	0.1	1641	CQ	D1EX	FM95
*	220926 070645	14.074	Rx	FT8	-21	0.7	843	CQ	TA2HC	FM69
*	220926 070645	14.074	Rx	FT8	-22	0.1	1653	K04HKC	VK2POP	RR73
*	220926 070645	14.074	Rx	FT8	-20	0.1	972	VK4JST	JJ1UBX	FM95
*	220926 070645	14.074	Rx	FT8	-22	0.2	1076	G4CXQ	9A2RI	R-04
*	220926 070645	14.074	Rx	FT8	-22	-0.0	887	VK4JST	JK1EVU	FM95
*	220926 070645	14.074	Rx	FT8	-5	1.5	1485	OH3JF	DB2QM	R-03
*	220926 070645	14.074	Rx	FT8	-7	0.2	1578	UB8COS	PD2WL	JO22
*	220926 070645	14.074	Rx	FT8	-22	0.1	1238	SV1EAG	DL3AWI	JO51
*	220926 070645	14.074	Rx	FT8	-24	0.0	798	DG9FDM	UR3QCW	RR73
*	220926 070645	14.074	Rx	FT8	-16	0.2	479	CQ	G80C	JO02
*	220926 070645	14.074	Rx	FT8	-21	0.1	1275	CQ	EA4TF	IM75
*	220926 070645	14.074	Rx	FT8	-17	0.2	281	VK2HCC	DL5JAN	R-13
*	220926 070645	14.074	Rx	FT8	-24	0.2	1132	LZ5EO	DL9KV	-06
*	220926 070645	14.074	Rx	FT8	-17	1.0	736	CQ	DL2BCY	JO43
*	220926 070645	14.074	Rx	FT8	-17	0.2	1251	JA9GPG	DL9YEH	JO31
*	220926 070645	14.074	Rx	FT8	-16	0.9	1858	JA7GDW	UR5HVR	R-17
*	220926 070645	14.074	Rx	FT8	-11	0.1	426	CQ LP	JALVRU	FM95
*	220926 070645	14.074	Rx	FT8	-16	0.7	1371	ZL1TTR	LU2GE	GG02
*	220926 070645	14.074	Rx	FT8	-3	0.1	1611	VK4JST	ZB2RR	-19
*	220926 070645	14.074	Rx	FT8	+1	0.1	1764	DK4WK	VKSNEK	-02
*	220926 070645	14.074	Rx	FT8	-9	0.2	2139	CQ	G4FCN	JO80
*	220926 070645	14.074	Rx	FT8	-10	0.1	992	VK4JST	JELLES	FM95
*	220926 070645	14.074	Rx	FT8	+5	0.4	1802	4X1PF	EA3HMM	73
*	220926 070645	14.074	Rx	FT8	-7	0.1	1928	CQ DX	LA3XIA	JP41
*	220926 070645	14.074	Rx	FT8	-19	0.1	798	VK4JST	KG6HYN	CM87
*	220926 070645	14.074	Rx	FT8	+0	0.2	2691	UA1ANR	JALFWS	R-18
*	220926 070645	14.074	Rx	FT8	-16	0.1	2440	SP8ADU	OH4KRN	KP32
*	220926 070645	14.074	Rx	FT8	-9	0.4	1419	ZL1TTR	EA7ANV	IM87
*	220926 070645	14.074	Rx	FT8	+13	0.0	1540	M7ISK	VK7GS	-23
*	220926 070645	14.074	Rx	FT8	-18	0.1	1185	H88LHT	PD1JBO	JO22
*	220926 070645	14.074	Rx	FT8	-6	0.3	1077	IK2ZJP	F5RRS	JN36
*	220926 070645	14.074	Rx	FT8	-5	0.1	2612	CQ	US4IQ	KM88
*	220926 070645	14.074	Rx	FT8	-5	0.3	2759	CQ	OH2XQ	FP20
*	220926 070645	14.074	Rx	FT8	+12	0.1	2049	G7IWC	VK3AUX	-18
*	220926 070645	14.074	Rx	FT8	+3	0.1	2556	CQ	HC2AO	FI07
*	220926 070645	14.074	Rx	FT8	+8	0.2	581	IK3CSU	VK3VM	-18
*	220926 070645	14.074	Rx	FT8	-2	0.1	2260	IN3TJO	ZL3HAM	+03
*	220926 070630	14.074	Rx	FT8	-16	0.1	926	VK6TEK	HB9TKB	JN36
*	220926 070630	14.074	Rx	FT8	-16	0.2	1874	VK2PWS	SQ9LFO	-14
*	220926 070630	14.074	Rx	FT8	-8	0.4	1238	CQ	SV1EAG	FM18
*	220926 070630	14.074	Rx	FT8	-14	0.0	954	SMSACQ	9A2KS	JN65
*	220926 070630	14.074	Rx	FT8	-9	-0.0	1185	CQ	H88LHT	JO95
*	220926 070630	14.074	Rx	FT8	-13	0.2	2559	HC2AO	DJ2DL	JO31
*	220926 070630	14.074	Rx	FT8	-9	0.1	1332	DN9ST	EA3TF	IM75

Low level slider at -10, high level slider at +6dB, wild matches only active.

Your screen layout may/will differ depending on software version !!

I recently developed a new 'add-on application' << BandView >> for WSJT-X for Windows (7/10/11 and 32/64 bit) that might improve the digital-modes operating experience for at least some users.

It is not totally 'you-beaut' but what it does is reverse-sort the band activity data from WSJT-X so that the newest is at the top but also allows the user to apply a 'filter' to the process across the 4 most important fields : (1) audio tone frequency, (2) callsign #1, (3) callsign #2, (4) report/grid info. It definitely makes it easy to 'watch' specific callsigns (avoiding the clutter) to make it easier to work them. Obviously, WSJT-X needs to be running processing incoming signals, for any data updates to occur within BandView.

By default, the software is typically used with \* (ie a wildcard) in the Search match box, and that means it will display all band activity.

Optionally, you can enter a single letter (eg W, for USA calls) that will list only callsigns that start with that letter. More letters / numbers and the results list gets shorter. Put in a grid square (eg QG62, my home QTH grid square)) and it will list only entries that match that grid area. Typically QG gives more results than QG62 as it extends the area to most of eastern Queensland and northern NSW).

Alternatively, put in a tone frequency (you might have seen it flash by a few seconds ago) and list the activity on that tone freq. Here is a tip - if it was 1823 Hz you saw and you enter it as 182 then it will show all with tone frequencies from 1820 to 1829..

Now add a mix of 'filters' separated by commas eg W,K,N,XE,VE,VO,VA and you will see just a list of North American callsigns - eg USA, Canada and Mexico. Ditto with prefixes for the EU area.

Remember to press the Enter key when finished entering the match criteria, comma separated (/delimited) for multiples...

*There are a few tick boxes to take note of :*

The Auto box enables and disables automatic data updates as WSJT-X cycles.

The Active tickbox next to the 'MyCall' user callsign entry box (at top LHS) enables and disables specific matches to the entered callsign - highlights in either red or yellow when your call appears.

The Active tickbox at the RHS of the search parameters box enables and disables specific matches to the search field.

The CQ tickbox disables both the MyCall and Search List tickboxes and those functions. That results in only CQ calls being listed on screen, with a green background.

The red numbers at top RHS is the current time in seconds - updates occur a few seconds after the normal FT8/FT4/.. odds/evens periods This delay is intentional to avoid data file crash error messages.

*TIP : Hover the mouse over other things on screen and most will have a description of what it means or is for.*

The way the software works is that it takes a copy of the WSJT-X ALL.TXT file into the local executable's folder (eg c:\ham\_radio\vk4adc\ c:, then processes it back to a reverse-order equivalent named REALL.TXT (reverse all). It is that file copy which the software then processes. It does not use UDP to work with WSJT-X, simply a copy of the raw WSJT-X text file. So provided the ALL.TXT file exists then it will create REALL.TXT in the local folder. You can check that using Windows Explorer : both files should exist on your Windows-based hard disk !

The normal WSJT-X install places files into " C:\Users\(\username)\appdata\local\WSJT-X \ " where everything up to the "\WSJT-X\" is retrieved from a Windows environment variable for LOCALAPPDATA ( using GetEnvVarValue('LOCALAPPDATA') ), and that is where IT stores the ALL.TXT file, along with some other files. You might check if that is actually where your WSJT-X files have been placed if it does not start up correctly. I simply take a TXT copy of that WSJT-X file to work with.

**The Auto tickbox must be ticked for screen updates to occur.** There is actually a very brief green flash, then a second or so later a yellow flash occurs. The green flash is when it copies the WSJT-X all.txt file to the local folder - very quickly for SSDs. The yellow flash is while it processes the file into reverse order then puts the data-matching details to screen.

The tickbox next to 'MyCall' doesn't show anything different if you aren't making QSOs - so your callsign in Call#1 or Call#2 has not triggered a colour change to red or yellow for those entry lines. For instance, I have had my copy with VK in the Search List box just observing the various QSOs and CQs from VK stations, then I noticed VJ6X on air (in WSJT-X) so added a ",VJ" and all of those QSOs and calls appeared too.

Note that with WSJT-X proper, you need to stop the 'Monitor' button to scroll back in history (up) else it refreshes every 15 seconds (on FT8) In BandView, you scroll downwards but don't lose anything. Unticking the BandView 'Auto' box achieves a similar outcome to that of the Monitor button in WSJT-X but the QSOs update normally in the WSJT-X Band Activity window - so no other band history data is lost.

**At least ONE tickbox must be selected from MyCall, Search or CQ tickboxes otherwise no data is displayed.**

The little button with the 'S' label is a "Snapshot" that saves the data as listed on screen into a file simply named YYYYMMDD\_HHMMSS.TXT, yes a text file but CSV format, in the application's folder. Mainly implemented so that you can save a set of QSO exchanges for historical purposes.

The font size of the presented data list : the size changeable by a small up/down control near top RHS. The font size range is intentionally limited but, even so, some fields like date/time will overflow the preset field width available at maximum. The font size setting is retained from one session to the next.

The font colour is blue for the period starting at either 00 seconds or 30 seconds (ie first period on FT8), black for the periods starting at 15 and 45 seconds (second period on FT8). For FT4, the alternate colour is altered for the 7.5 second first/second period configuration.

*To explain the colours put to screen :*

A callsign line matching MyCall is red when in the Callsign#1 field. I.E. You are being called

A callsign line matching MyCall is yellow when in the Callsign#2 field. I.E. You are calling

A station calling CQ is green.

Alternate timing periods are either blue (first) or black (alternate) text, once the software figures out which mode is in use (eg FT8, FT4, MSK144..) so which is actually a first/evens period.

The percentage of available 'data to be processed' setting can be changed by typing a new value in the box next to the % symbol, or can be defaulted back to a figure of 5% by pressing the '5%' button.

### **Signal-level based highlighting :**

The two small slider controls near the centre set the received signal level at which highlighting colours are activated. The top slider has a range from +0dB to +40dB and signals above the setting value have a magenta-like background colour. The bottom slider has a range from -40 to +40dB and signals above the setting value have an aqua-like background colour. The default values are +6dB for the upper control, and -10dB for the lower slider control.

These help you figure out which signals are above the "I can normally work them at this level" strength, or the "strewth, that's strong" point.

To turn OFF the level highlighting, set both sliders to the RHS (ie +40dB) positions, exit to save these values and then restart.

There is no level-highlighting active when actually transmitting as all 'Received Level' reports are set at +0dB in the WSJT-X software.

An additional series of tickboxes have been added (in 1.0.0.7, as against earlier releases) just above the data listing area to allow specific column searches. Eg.. search for "14" with FRQ ticked will list only entries starting with "14" eg 14.074. Experiment using data below each tick box to see how it can help you specialise your search parameters.

V1.0.0.8 introduces an optional mode for when there are multiple instances of WSJT-X are running on the PC. The normal mode is 'Default' and it sets BandView up so that it utilises the normal single-instance settings. The Percentage options are now set automatically in other code depending on the size of the ALL.TXT file so the screen space now displays a drop-down selector box which might contain something like Default, OmniRig Rig 1, OmniRig Rig 2. These definitions have to be set up manually but the user in a text file named 'rigs.txt' in the BandView executable's folder. For instance my rigs.txt file contains these settings :

Default,C:\Users\User\AppData\Local\WSJT-X,WSJT-X.ini

OmniRig Rig 1,C:\Users\User\AppData\Local\WSJT-X - OmniRig Rig 1,WSJT-X - OmniRig Rig 1.ini

OmniRig Rig 2,C:\Users\User\AppData\Local\WSJT-X - OmniRig Rig 2,WSJT-X - OmniRig Rig 2.ini

\* Note that the *User* text above (in italics) must be replaced by whatever account name you are using as your Windows logon name.

The first field contains the displayed label then a comma (,), the second field is the folder for the folder detail where that instance stores it's ALL.TXT file then a comma (,), the third field is the name of the WSJT-X INI file for that instance. The number of entries is not specifically limited but you MUST get the details accurate in the file as there are no bug-fixes to accommodate invalid configuration entries. If you aren't proficient/confident then do NOT create the rigs.txt file.

All relevant software settings are saved in the Windows Registry from one user session to the next upon program exit.

While this software was written mainly for my own use, others may find it useful/helpful hence the "sharing".

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### **Download ZIP file (</~vk4adc/web/images/UserFiles/File/BandView/BandView.zip>) (about 250KB in size)**

There is no installer application : simply download and unZIP into a folder of your choice (C:\BandView is suggested), right-click on the file 'BandView.exe' and select Send To Desktop from the displayed list.

Current version displayed at the top frame of the application : 1.0.0.8

You will probably have to do a 'Run Anyway' under Win10.

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